



iRobot Roomba 800 Clicking noise when docked FIX

Many Roomba 800 Series robots produce an annoying clicking sound every xx seconds when they are docked. This fix will completely remove this issue and the robot will be silent when docked.

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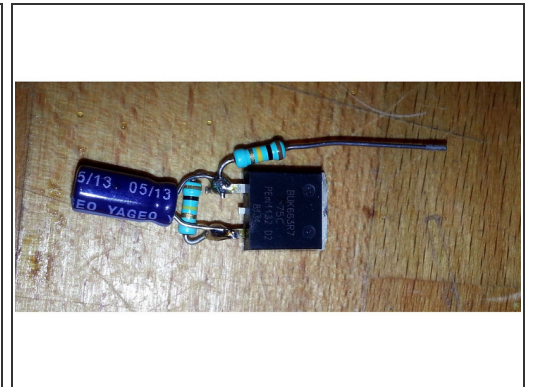
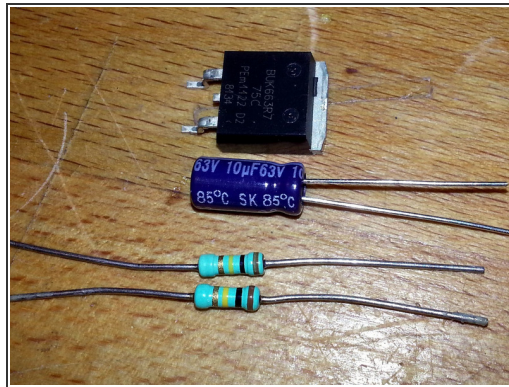
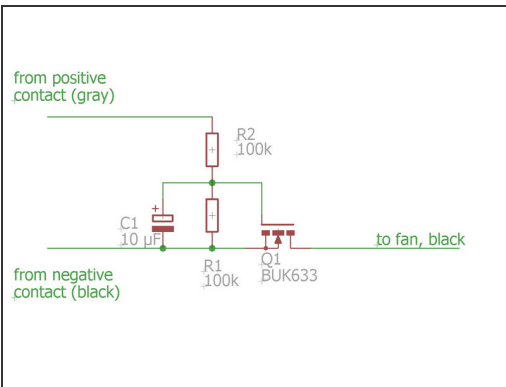


Step 1 — Check if this fix will help you



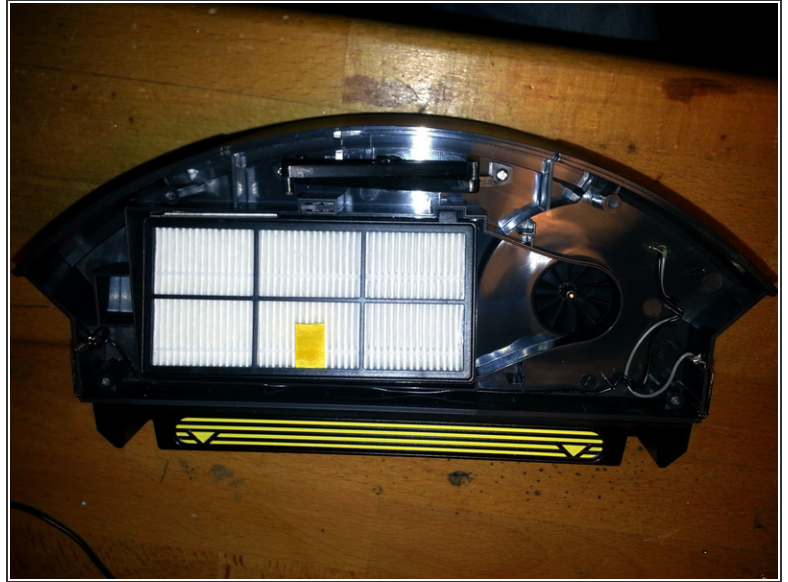
- First check, if this fix applies to you: Remove the vacuum bin and listen if the clicking noise has vanished. If so, this fix will help you
- The source of the clicking noise are voltage spikes (1-2 milliseconds duration) which are sent to the vacuum bin motor, giving it a short, hearable kick. We will add a soft-start functionality to the vacuum bin motor such that those spikes will have no effect.

Step 2 — Soldering soft-start circuit



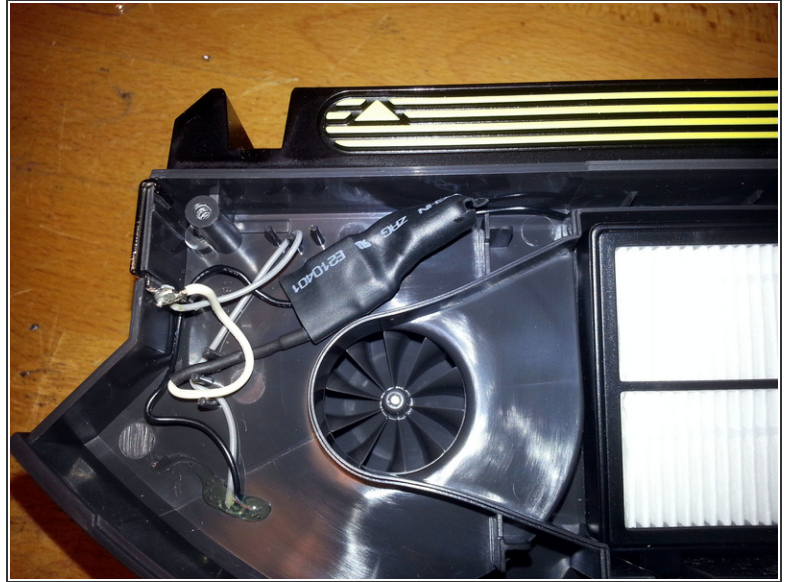
- Parts you need:
 - one n-FET (I used BUK663) but any n-FET with a voltage rating $> 20V$, a current rating $> 10A$ and a gate-source threshold voltage $V_{gs} < 5V$ should work
 - Two 100kOhm resistors
 - one 10 μF /25V capacitor (careful, has positive and negative side!)
 - Solder everything together according to the schematic

Step 3 — Open Vacuum Bin



- Open the lid of the vacuum bin by removing the four silver screws and carefully remove the lid

Step 4 — Add Soft-Start circuit



- Cut the black wire and insert the circuit. Do not forget some large shrinking tube to cover the whole circuit later (not pictured)
- Add a wire between the gray-wired connection tab and the resistor R2 (white wire in the picture). Add some shrinking tube to the resistor to prevent short-circuits.
- **WARNING:** Do not solder the wires when the connection tabs are in the plastic holder - the plastic will melt. Remove the contacts from the plastic before soldering
- Shrink tube over the whole circuit.

Step 5 — Assemble



- You can test the circuit with a 12V or 9V battery/voltage supply. Positive voltage is the grey-cabled tab, negative the black-cabled one. The motor should start with a short delay (1s or so)
- Reassemble vacuum bin and enjoy the silence.

To reassemble your device, follow these instructions in reverse order.

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